

2.2 Water Quality, Supply and Indicators of Change

Summary

Project Leader(s)

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Environmental change is likely to have major repercussions in Nunavik and Nunavut for the supply of safe drinking water, freshwater habitats for aquatic wildlife and water resources for industrial needs, notably hydro-power generation. The central objective of this project is to develop an integrated environmental and health framework for water supplies in the Northern RiSCC sector, a 30 degree span of latitudes from Hudson Bay to Ellesmere Island in which there appears to be a striking north-south disparity in climate trends and sensitivity. The icebreaker Amundsen will play a key role in this project, with ship-based sampling planned for eastern Hudson Bay (2004); Foxe Basin (2005); Kuujuarapik to Ellesmere Island (2006); and Labrador-western Greenland (2007). The project has three detailed objectives: (1) Develop limnological and paleolimnological indicators of freshwater quality in the northern environment, including physico-chemical measurements and contaminants. This will be undertaken in collaboration with the catchment studies on melting permafrost (Project 2.6) (2) Assess health indicators of water quality such as colilert analysis, their relationship with limnological indicators, and suitability for local community monitoring and management. (3) Develop and analyze climate and paleoclimate indicators of changes in water supply in this sector.

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Partners

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Labrador Inuit Association
Environment Canada - Northern Ecosystem Initiative

Fisheries and Oceans Canada - Science Branch Newfoundland
Makivik Corporation
Fisheries and Oceans Canada - Freshwater Institute
Indian and Northern Affairs Canada - Northern Scientific Training Program
Natural Resources Canada - Polar Continental Shelf Project
Parks Canada
Canadian Foundation for Climate and Atmospheric Sciences
Alberta Ingenuity Fund
Inuit Tapiriit Kanatami
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Nasivvik Centre for Inuit Health and Changing Environments
University of Alberta
Centre hospitalier universitaire de Québec
Centre d'études nordiques
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Ouranos
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Publications

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- Yagouti, A., Boulet, G., Bégin, Y. and Vescovi, L., 2006, Analyse spatio-temporelle des températures pour un meilleur suivi du climat dans le nord du Québec., Symposium Ouranos, 1, Published
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- Vincent, W.F. 2006., 2007, Microbial biodiversity in cold-water ecosystems: High Arctic lakes, rivers and seas, International Symposium on Polar and Alpine Microbiology, Innsbruck, Autriche. 28 février, 1, Published
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